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# MUSICAL MEMORY IN PIANO PLAYING AND PIANO STUDY

By EDWIN HUGHES

**E**VER since the time when the feat of playing whole programs without the notes originated among the great virtuosi of the first half of the nineteenth century, musical memory has occupied an important place in piano playing and in all serious piano study. Today the frequenters of concert-halls have come to take it quite for granted that all public performers on the instrument shall play from memory, so much so in fact that to have seen Vladimir de Pachmann with the notes of the Chopin F minor Concerto in front of him on the music-rack, or the late Raoul Pugno tripping gaily out onto the platform with the music of the Italian Concerto in his hand, was to have experienced a slight shock to one's accustomed sense of the fitness of things. Entirely aside from any feeling among the artists themselves as to the advantages or disadvantages of playing from memory, their audiences have quite decided that they want their Beethoven, Schumann, Chopin, Liszt, and all the rest performed without reference to the printed page, so that it well behooves the young aspirant for public pianistic honors to question himself about the quality of his musical memory.

The possession of a reliable musical memory is valuable to all musicians, is important to some and is an absolute necessity to others. The composer who can retain his own musical ideas, wherever and whenever they may occur to him, without the use of his cuff or a scrap of paper, may well rejoice in his independence of material aids. The critic who is able when placed face to face with the first performance of a novelty to hold in his mind's ear the subject matter of importance as the work develops will be in a position to write an intelligent account of what he has heard.

The orchestral conductor has thus far been immune from any widely outspoken desire on the part of concert audiences to see him lead without the score, although there is no reason why he should not be expected to so do if he is expected to know his scores well at all. The task of learning a symphonic score well enough

to conduct it from memory does not compare in difficulty with that of memorizing a piano sonata and playing it in public. The conductor is never under the anxiety that the proper course of the symphony will be broken if his memory fail him for an instant. A lost inner voice can be picked up after a measure or two and the whole performance will be none the worse off. I have been told that even Toscanini, who has accomplished the feat of memorizing whole Wagner operas sufficiently well to be able to conduct performances of them, nods just a trifle at times. There are occasional moments when the men in the orchestral pit feel that he has lost the thread for a bar or two, but the men play on, and of course it is quickly found again. The fact is that no conductor can have absolute control of his men unless he can look them in the eye every minute of the time. This is impossible when a large part of the conductor's attention is occupied with the printed notes of the score, and it is encouraging to note that most of the big men among the present-day conductors realize this and conduct largely, some of them entirely, with the exception of accompaniments, without the score. A little pressure on the part of the public might aid this movement for a better knowledge on the part of orchestral leaders of the works which they attempt to interpret, for we want virtuoso performances of great orchestral works just as we want virtuoso performances of great piano compositions, and the first requisite for this is such a detailed knowledge of the work that a performance without reference to the score is a natural consequence. Those of us whose ears are a trifle above the average in sensitiveness do not want to hear the Symphonic Etudes played by an "all-round" musician, and we also prefer to have the Brahms C minor Symphony conducted by one who is a virtuoso of his craft.

From the singer's point of view musical memory is absolutely necessary or merely important, as the case may be. The opera singer must of necessity possess a goodly amount of memory ability, and with the singer of songs the ability to appear on the platform without a bundle of music in his hands and to deliver his message to the audience without having to peer into the printed page at the end of each line of verse, in order to know what happens in the coming line, gives him a large advantage over his colleague who has to lean on a bit of sheet-music for support when appearing in public. How kind are concert audiences towards singers with their notes, when the self-same members of such audiences attending a theatrical performance would leave at the first opportunity if the actors came on the stage each with his little play-book in hand!

When the violinist and 'cellist appear before the public as soloists we like to hear them play from memory and there is a general compliance with this preference.

Of all these musical specialists (how specialized music-making has become since the days of Mozart and Beethoven!) the pianist it is whose task, from the standpoint of musical memory, is the most difficult. The singer in memorizing has merely the one melodic line on which he must focus his attention, the matter of the accompanying background taking a position of importance in this respect only in such cases as the later Wagner operas and some of the Wolf Lieder. For the violinist and 'cellist the problem is practically the same, except for occasional double-stops and chords. For the conductor absolute accuracy in the memorizing of every single voice of the orchestral texture is not unconditionally necessary.

The pianist has almost constantly to do with a many-voiced musical texture, and he must not only be able, as the orchestral conductor, to hear the various parts, but must be able at the same time to execute them himself. He is melodist and accompanist at once; he is soprano, alto, tenor and bass of the quartet of voices in a Bach fugue. In the mere matter of the number of notes to the measure, the pianist's task is ten-fold that of the singer. In addition to these differences in kind comes the fact of the enormous difference in quantity, due to the immense literature for the instrument, far exceeding in size that of any other branch of musical composition. And the pianist as reproductive artist must be eclectic in taste and versatile in execution. He must have delved into every nook and corner of the vast pianoforte literature, and it behooves him to carry around in his noddle a goodly portion of that literature at all times.

Although there are pianists with such natural gifts in memorizing that the process of learning to play without reference to the notes is accomplished with remarkable facility, still I am quite certain that in the case of most pianists who play in public this process is, aside from all musical problems concerned, the subject of a good deal of patient effort and careful study. Blind Toms and persons who can read a composition over once, away from the instrument, and then go to the piano and play it through without a mistake are rare birds in the musical world. Such deeds are interesting, just as are the lightning calculations of the gentleman at the variety-show who tells you without thinking twice about the matter, exactly what the result is of 796,431 times 28,172. But they are not of the slightest assistance to less gifted persons.

Now the fact that all pianists have taken upon themselves this additional burden of memorizing all the solo numbers which they play in public, thus developing a very decided taste among their audiences for just this sort of thing, must have back of it a reason other than the mere joy of the pianist at being able to show his hearers that he is capable of the "stunt" of playing so and so many pieces by heart. Absolute freedom of expression and the most direct psychological connection with the audience are prime necessities to effective piano playing, and these things would be immensely hindered by a bundle of notes upon the piano rack. They overbalance by far any consideration of the fact that some fine day the performer's memory may play him a scurvy trick at a most inopportune moment, something which happens now and then with even the most routined concert pianist. Occasionally a protest appears in print against the now time-honored custom of playing long programs and piano-concertos from memory, urging the point of view that such mental gymnastics are unnecessary to a highly effective performance. If playing with the music happened to be so common as to afford any means for comparison with the popular way of doing without the notes entirely, the results would be not long in confirming the very evident advantages of the general custom.

By far the best way of attaining an excellent musical memory is, of course, to be born with it, and those of us who ever expect to reach anything of pre-eminence in this respect must in fact bring a good deal of it with us when we are first placed upon the piano-stool. For others less gifted there is hope up to a certain point, provided the necessary amount of will-power is at hand.

Elaborate psychological discussions of memory are of as little practical use to the pianist seeking to improve his prowess in this direction as are the tales of the imbecile who could recite by heart a whole oration of Cicero in the original, or the farmer who could remember the state of the weather on every day for forty-two years. In distinguishing between susceptibility, retentiveness and readiness, however, the seeker for mnemonic improvement may better be able to discover just where his weak points lie.

In dealing with a pupil who is possessed naturally of an excellent musical memory it is worse than a waste of time to attempt any analysis of the processes of the faculty. Any discussion of this most wonderful function would only tend to invite anxiety that perhaps the magic perfection of its workings might after all fail at some important moment. Those readers then who have been well taken care of in this respect, may, if they have already reached this point in the discussion, well skip to the next article.

For those who have the courage to continue let us write the word **CONCENTRATION** in big letters. In memorizing music, as anything else, it is the principal, the one most necessary factor. If one possesses it in any sort of degree one must cherish it, exercise it regularly and use every effort of the will to improve it.

The susceptibility of the memory, its sensitiveness to the reception of new images, is directly proportionate to the intensity of concentration and the degree of interest which one brings to the subject at hand.

Retentiveness in piano study depends largely on the strength of the impression made during the first attempts to master a new composition, also to a great extent on systematic repetition of the composition at longer or shorter intervals, after it has become a fixture in the repertoire.

Readiness means for the pianist the combination of a perfect mental image of the composition to be reproduced with a certain agility of thought in bringing the flow of musical ideas from their mental storehouse in proper order. Reflex action plays of course a large part in the process, as does the assurance given by an adequate technical equipment.

In all the processes of memorizing and of reproducing from memory one's physical condition is a most important consideration. A sleepless night or a nervous headache mean death to concentration, upon which susceptibility and readiness are alike dependent.

Nervousness in playing from memory in public is largely a result of the mental defect of lack of concentration, when it is not directly caused by a run-down physical condition. When the mental image of a composition and the ability to reproduce it falls to pieces like a house of cards the minute the attempt is made to play before an audience, large or small, it is a pretty good sign that the performer is not accustomed to a sufficiently Spartan discipline in concentration during his study hours. It is so easy, after the memorizing of a piano composition has progressed to a certain point, to leave nine-tenths of the work to the purely reflex action of finger memory. This is one of the worst hindrances to the acquisition of sureness in memory work. Every effort must be made to secure the clear and uninterrupted focus of *conscious* thought on the matter at hand during the practise periods.

At the first public airing of a piece learned entirely by finger memory, this slipshod method of study revenges itself at once upon the performer. The moment the pianist plays for other listeners than himself, conscious thought is brought to an uncomfortably sharp focus not felt at all when playing alone, and there come, more

likely than not, those awful moments of mental helplessness when everything seems a blank. A slight nervousness, induced by one thing or another, is sufficient to destroy the mental poise of which the player seems so sure when he is by himself. Reflex action can never take the place of conscious knowledge at such moments, which come at times to even the most practised concert pianist. The player can only regain his grip if he is able to say to himself with complete assurance, "*I know that I know every note.*"

This brings us to the point of the various methods which may be employed in memorizing piano music. In the first place it is quite important to know that there is no one best way of memorizing, for the memory faculty is so different in different individuals that each must seek his own salvation in the matter along the lines of least resistance. The teacher who thinks that he has found the only way to memorize and then tries to apply it to all of his pupils indiscriminately will not achieve very much better results in this respect probably than the piano pedagogue who upon being asked by one of his class, "How do you memorize?" replied, "Oh! I memorize very easily."

Piano music may be memorized in three ways: by ear, by visual memory, either of the notes on the printed page or the notes on the keyboard, and by finger memory or reflex action. On one or both of the first two ways are dependent the very useful and important methods of learning the harmonic and formal structure of the composition to be memorized and of being able to *say* the notes, or at least to bring up a very distinct mental picture of them.

The bringing to the pupil's attention of these various methods, and the discovery or invention of ways and means of making them more rapid, accurate and dependable will enable the student to find out for himself that method of memorizing which is the easiest and surest for him.

I think that most persons who are especially gifted in memorizing and who are at the same time highly musical rely to a very great extent on pure ear memory, the ability to hear a composition in the mind's ear and to find the outward expression of it easily at the keyboard. I am quite sure that all *Wunderkinder* memorize in this manner. This, together with the gift of utter and complete confidence which such talents usually possess, would render any sort of analysis in memorizing perfectly superfluous for them, and it may be that, even after such gifted children are grown-up enough to have lost their unconsciousness, they adopt other methods of memorizing only as an extra precaution for absolute surety when playing in public.

For the average mnemonic ability, however, some sort of analysis is always necessary, although I am not at all of the opinion of many musicians who pretend to look down with scorn on memorizing "by ear." In fact I believe that memorizing by ear is, after all, not only the most natural way of memorizing, but also the most musical way, and that teachers should take every opportunity for developing this faculty in their pupils, even with those who possess only slight ability in this line. A course of ear-training is very necessary for such development, as well as for the general musical well-being of every piano student, and piano teachers as a class should interest themselves to a far greater extent in this matter than they do.

Visual memory of the notes of a composition on the keyboard is one of the commonest methods of memorizing. It is the readiest and quickest way of memorizing for most of those who are less gifted musically than the ear memorizers. One notes the position of the hands and fingers, the look of the chords as they are struck and the pattern which the various figures make upon the keyboard as they are played. Muscular feeling also plays quite a part in this manner of learning by memory, for which reason it is advantageous to practise with the eyes closed, or looking away from the instrument, seeking to gage accurately the positions and distances remembered in the mental vision of the keyboard.

I had always been in the habit of considering the method of memorizing by learning to visualize the notes on the printed page as one of comparatively little importance until recently a very well-known concert-pianist, one who has accomplished some prodigious feats of memory, informed me that he depended to a very great extent on this method. He assured me also that he would never be able to conduct an orchestral score from memory were it not for his almost complete reliance on this form of memorizing. I have also known a number of other persons who play the piano who have told me that visualizing the printed notes was their mainstay in memorizing. Persons who memorize most easily in this manner have a gift similar to those who learn a poem most readily by recalling the look of the printed words, in distinction to learning the sound of the words or the meaning of the lines, which of course they may, and very probably do do, in addition. In memorizing music after this fashion, the additional mental action is involved of transferring the visual image of the printed symbols from the page to the actual keys under the fingers, and it would seem therefore that this method would be more complicated than that of learning to visualize directly on the



keyboard in the first place. However, each individual must be a law unto himself in the matter.

In any case visual memorizing, in order to be completely trustworthy, must be carried to the extent that one can say off the notes of a composition away from the instrument, or at least go over them in his mind's eye with a great deal of certainty. As one of the greatest aids to this sort of memorizing must be mentioned the study of the printed page away from the piano. This is most important, whether one memorizes printed notes or keyboard patterns. Students who possess any aptitude at all for the mental hearing of printed music should be urged to give part of their daily study to such sort of practise, in order to improve this faculty, which is a most important aid in memorizing, as well as a necessity, from a general point of view, to every educated musician.

No really intelligent memorizing is possible without a knowledge of harmony and musical form, and, for the stricter polyphonic forms of composition, of counterpoint and fugue as well. For the reproductive artist, of course, this way of memorizing can never take the place of the other methods, but must be looked on as a valuable supplement to them, to make sureness more sure. The writing out of the chord progressions under the notes will prove of assistance to some.

Finger memory, the least reliable and most unscientific of all, is still something which the pianist cannot possibly dispense with. Fatal as it would be to rely on it entirely, one must always leave a good deal to reflex action in actual performance.

In fast passage playing for example, it is quite impossible to say over, even to think over, all the notes with perfect accuracy at the proper tempo. At any rate it is impossible for the average talent, although a few particularly sparkling intellects may be able to compass such a task. For such intellects of course this article was not written, as they are not in the slightest need of any discussion of the matter of musical memory. One may in rapid passage playing visualize the notes by groups, and if they happen to occur in scale or chord form, even approximately, the task will be so much the easier.

However, finger memory must always be bolstered up by one of the other methods of memorizing. There must always be the feeling of perfect assurance that, if finger memory go back on the performer for a moment, he can fall back on one of the other methods. The safest way is of course to have *all* the above mentioned methods to fall back on, to know the composition well by ear, hearing the piece unfold in advance of the fingers, to know

it by visual memory of the keys or the printed page, and also from a harmonic and formal standpoint.

When one is perfectly sure of knowing a piece thoroughly after several different methods of memorizing, one can leave the matter of its reproduction more and more to finger memory. Freedom in execution and a concentration of one's attention on the interpretation, so necessary to a beautiful and effective reading of a composition, are in fact only possible when one is able to leave the more mechanical details of reproduction to a very large extent to reflex action. The controlling conscious thought must of course be always present and alert in the background, but the constant thinking of chord and key changes, of figuration patterns and the other technical details of memorizing would mean a hampering of the player's fantasy and feeling, and a taking away of his attention from the finer details of interpretation.

In beginning the study of a new composition one must play it through once or twice to get its meaning as a whole, to become familiar with its character, its form and any striking peculiarities. At this point the work of memorizing should begin, and should be carried on simultaneously with the study of the phrasing, shading, fingering, pedalling and so forth, for these things must all be memorized as well as the mere notes. One may go about the memorizing in two ways, either slowly and analytically, proceeding bar by bar or phrase by phrase, or in the more haphazard fashion of merely practising the piece with a view to technical mastery, letting the memorizing come of itself without giving it any special study.

I mention both these ways because I know that both of them seem to work equally well with different individuals. Those who choose the latter method must, if their memorizing is to be successful, possess considerable faculty for learning by heart quickly. And in order to attain surety, they must set aside some time daily for practise away from the instrument, be it during the afternoon walk or a quiet hour with closed eyes in the arm-chair, and must be able to mentally go through the compositions studied with as little hesitation as when seated before the instrument. Every opportunity should in fact be taken for this mental practise, for the pianist who plays in public must live with his pieces constantly. He must *know* them, and not simply *remember* them. They must be a very part of him.

In proceeding by the analytical method, one takes a bar or two, perhaps a whole phrase, but in no case more than one can easily compass mentally, and learns it from the printed page, memorizing notes, fingering, pedalling, shading, phrasing and

everything else that musically goes with the passage at the same time and trying it over once on the keyboard after a mental image of it has been made. If the first trial is not a complete success, one reads over the passage once more until one can finally reproduce it perfectly, proceeding then to the next bar or two. Perhaps the next day the mental picture may have become a trifle hazy. If so, one must repeat the process. The reward of such painstaking study is the fact that pieces so learned have an undeniable tendency to stick by the player for a long period of time. They may be taken out of their corners again after months, sometimes years of disuse, and after a bit of brushing up they are as good as new.

An excellent plan in such sort of study is to throw the notes over the music-rack on the top of the instrument, so that one is compelled to get up every time in order to take a look at them. This cultivates a more intense sort of concentration, to obviate the trouble of having to jump up and down too often. Even a few lines learned in this thorough manner daily will amount up in the course of a month or two to quite a small-sized repertoire. In studying after this manner or in the one first discussed, one must have in mind the ways of memorizing mentioned earlier in the article; namely, by ear, by visual memory, by knowing the harmonic structure and by being able to say over the notes, so that these may be of mutual aid to each other. Finger memory does not need to come in for consideration, as it is perfectly able to take care of itself. No amount of thinking about finger memory will help it in the least, and it cannot possibly be neglected because it is in itself a perfectly automatic process.

When one is quite certain of a piece, one must be able to stop anywhere during the course of the composition and to begin again where one left off without the slightest hesitation. To test one's ability in the matter it is an excellent exercise to stop suddenly in the midst of a melodic phrase or a difficult passage, get up from the instrument, walk around the room once and then see if one can take up the thread of the composition again just where it was left off. Or, when studying away from the piano, it is good to try if one can begin at various points during the course of the piece and still keep the continuity of the composition clearly in mind.

When a composition has been completely memorized it is often well in practising to try it over as a test just once, no matter if it is perfectly done or not, leaving it then and coming back to it again later for another single repetition. In public performance remember that there is only *one time*; and therefore, before one airs a piece before an audience, one must be able to

get up at three o'clock in the morning, if necessary, and go through it without either fear or trembling for the result. It is good to try to imagine sometimes that there are other listeners in the room besides one's self when playing over memorized compositions. Leschetizky used to recommend calling in anybody for an audience, even the cook, as soon as a piece had been learned by heart. Trying it on the dog is in any case a very beneficial process for the performer, as it shows up any weak spots that may exist: or, if the trial be quite successful, gives him that confidence in himself which is so eminently necessary to successful public performance.

In order to keep a large repertoire in trim there must be a systematic arrangement of practise. Pieces most recently learned will require more frequent repetition, those which have been played for a longer time, less, particularly if they have been through successful appearances on the concert stage. Compositions learned early in one's pianistic career, especially those studied in the later 'teens and early twenties, seem to enjoy a particularly long lease of memory life—a hint as to the best years of one's life for accumulating a large repertoire.

There is a curious superstition among many people, even among persons musical enough to know better, that the possession of an exceptional gift of musical memory entitles a pianist to a place among the great in art. "Have you heard so-and-so? Wonderful! He can play anything you ask him for in the whole pianoforte literature." Who among us has not heard such an effusion at one time or another? It is as though there happened to be an actor whose mnemonic powers were so elastic that he could recite the whole of Aeschylus, Seneca, Molière, Goethe, Schiller, Shakespeare, Sheridan and Bernard Shaw by heart, and for this reason we placed him among the Thespian gods. One of the ablest vocal artists of the nineteenth century, Frau Schroeder-Devrient, had the greatest difficulty in learning a new rôle from memory, and many other such examples among gifted opera-singers could be cited.

I have known several pianists, excellent musicians in the general sense of the word, who were possessed of the most remarkable memories and perfectly adequate technic to boot, to whose playing it was most painful for any one with a pianistically educated ear to listen.

Memory is one of the technical requisites of the pianist, but in itself it has as little to do with art as have fleet fingers and supple wrists. Let us recognize its importance, but let us not rate it too high nor those who happen to possess it in especial abundance.

After all, when it comes to the matter of repertoire and absolute certainty in reproduction, we must all of us make place for our greatest rival in all such technical matters, the pianola.

Musical memory is usually no longer a very reliable factor after a pianist has reached fifty years or thereabouts, although there are exceptions of course. Rubinstein abandoned the concert stage mainly on account of the fact that he could no longer depend on his memory in public performance, and many other well-known virtuosi have followed his example, leaving the concert platform when they were otherwise at the very height of their artistic powers.

The most routined players are not absolutely immune from occasional lapses of memory, even the younger ones. I remember once hearing a very well-known pianist play himself into a maze in the midst of such a lucid composition as the Beethoven G major Rondo. Another concert I remember where the player wandered off into a false key during the Schumann Fantasie. Fortunately he was musician enough to be able to extricate himself very cleverly from the situation. On still another occasion a pianist whom I had always given the credit of possessing a remarkably clear mental grip was playing the Haendel-Brahms Variations. After he had done about two pages of the Fugue-Finale he completely lost himself, but saved the day by calmly beginning the Fugue all over again and going through it this time without the slightest hesitation. A pianist who enjoys in certain countries quite a reputation as a Beethoven player once became so tangled up during the slow movement of that composer's G major Concerto that both he and the conductor of the orchestra had a most painful few minutes straightening matters out. These are all examples from the pianistic elect, men whose names are known wherever the art of piano playing is appreciated, and it is really only a wonder that such lapses are not more frequent. The study and memorizing of a great part of the pianoforte literature makes such extraordinary requirements on mental capacity that the training for the mind which it gives can hardly be overestimated, its value in this respect being fully equal, if not superior, to the study of the dead languages.